United States Department of Agriculture
Bureau of Entomology and Plant Quarantine

# A DEMOUNTABLE ISOLATION CAGE FOR FIELD USE

By Laurence S. Jones, Division of Fruit Insect Investigations

A cloth-covered cage capable of being assembled or disassembled in the field has been used at Brownwood, Tex., to isolate young nursery peach trees used in experiments with possible vectors of peach mosaic. Most of the cages used at Brownwood were 24 feet long, 4 feet wide, and 4 feet high (fig. 1), but these dimensions may be varied to suit other needs. Structural features of a completed cage, as shown in figure 1, include a covered-wagon shape, iron bows supporting a cloth cover, a demountable wooden base with iron pipe standards in which the bows are inserted, and a slide-fastener closure.

The wooden base of the cage is constructed of 1-inch by 6-inch lumber. Eight-foot lengths placed on edge and joined together with bolts are used to facilitate disassembly. When complete, the base is placed in position and fastened to the ground with stakes.

Arch-shaped supports for the cloth cover are made of 1/4-inch iron rod and then inserted in 3/8-inch pipe standards attached to the upright wooden base at 32-inch intervals. These bows, each 10 feet and 2 inches long, must first be shaped, then coated with aluminum paint before use to prevent rust damage later to the cloth cover. Since 1/4-inch iron rod bends easily, bows of the length required for cages 4 feet high are not sufficiently rigid unless reinforced. To provide rigidity, the iron pipe standards are made 20 inches long and the bows are inserted to the full length of the standards. The lower end of each standard is crimped to prevent the bow from sliding through into the ground. Each standard is attached to the wooden base by a sheet-metal clip grooved to receive it. The groove in the sheet-metal clip is crimped at its lower end to prevent the standard from slipping. Figures 2 and 3 illustrate the cage skeletons, the pipe standards and their attachment, and the manner in which the bows are inserted in the pipe standards.

A cloth cover for the cage is sewed to the correct dimensions, an allowance being made for shrinkage. Strips through which the bows can be threaded, in the manner that rods are inserted

in curtains, are sewed to the underside of the cloth cover, thus providing a means of holding the cover securely. After the cover is in place with all bows threaded, it is tacked to the base and then fastened with wooden strips.

Necessary closures can be placed at one or both ends. They consist of heavy-duty slide-fasteners sewed in position as illustrated in figure 4, with the slides pulling from top to bottom to release the triangular cloth. A hanging flap on the interior of the cage, behind the top of a closure, will help to prevent insects from escaping.

The cost of the cage described is approximately two-thirds of the cost of a wood-frame cage of the same dimensions.

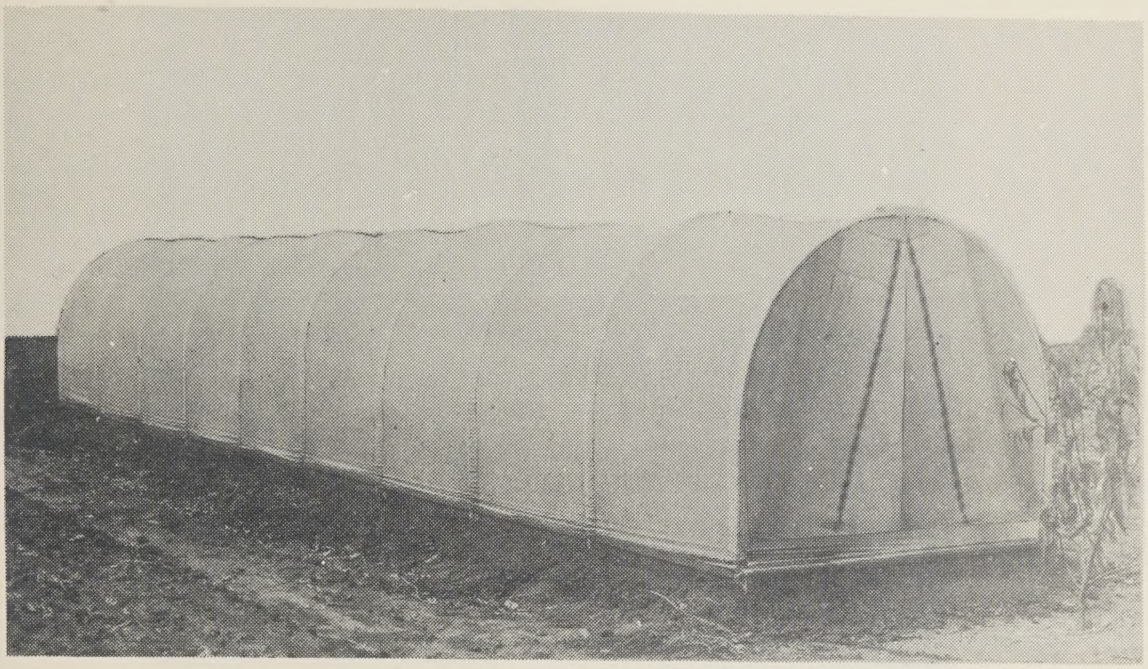


Figure 1.--Field cage; 24 feet long, 4 feet wide, 4 feet high.

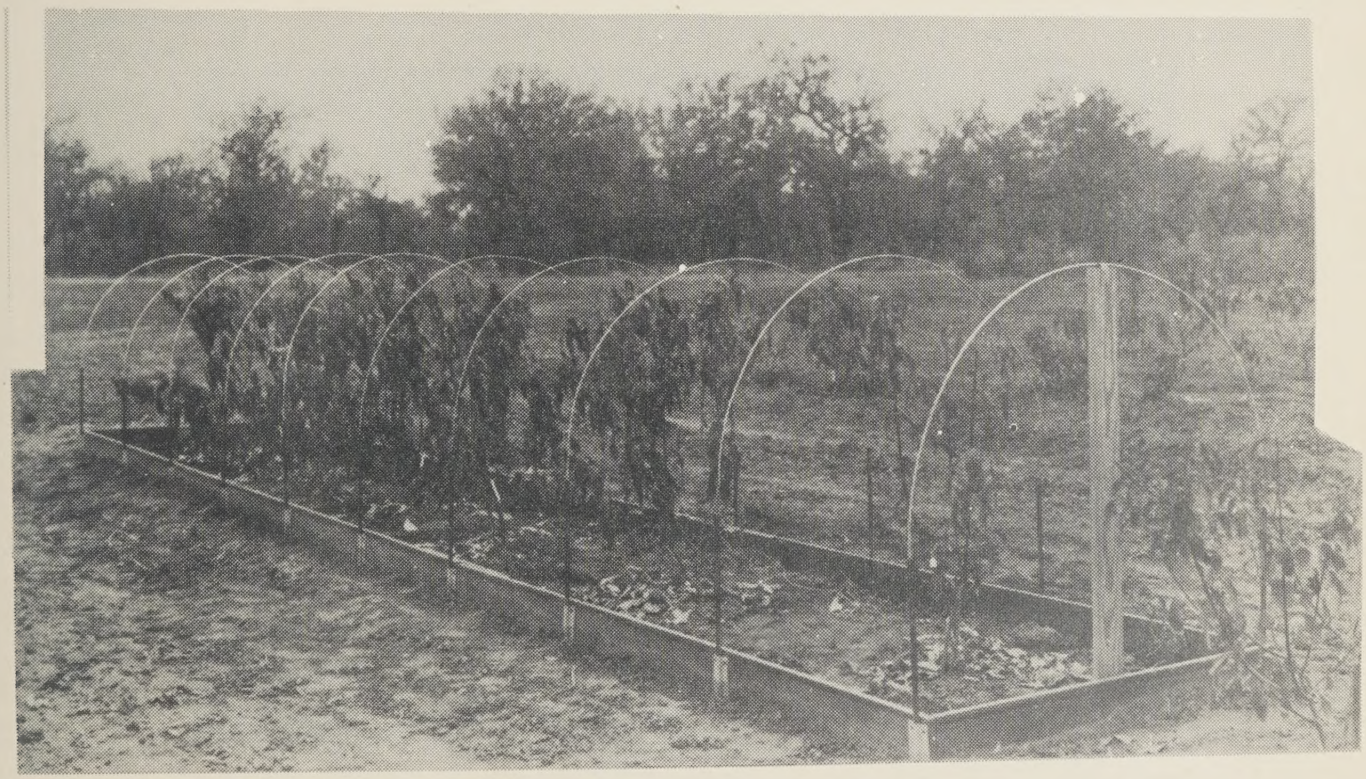
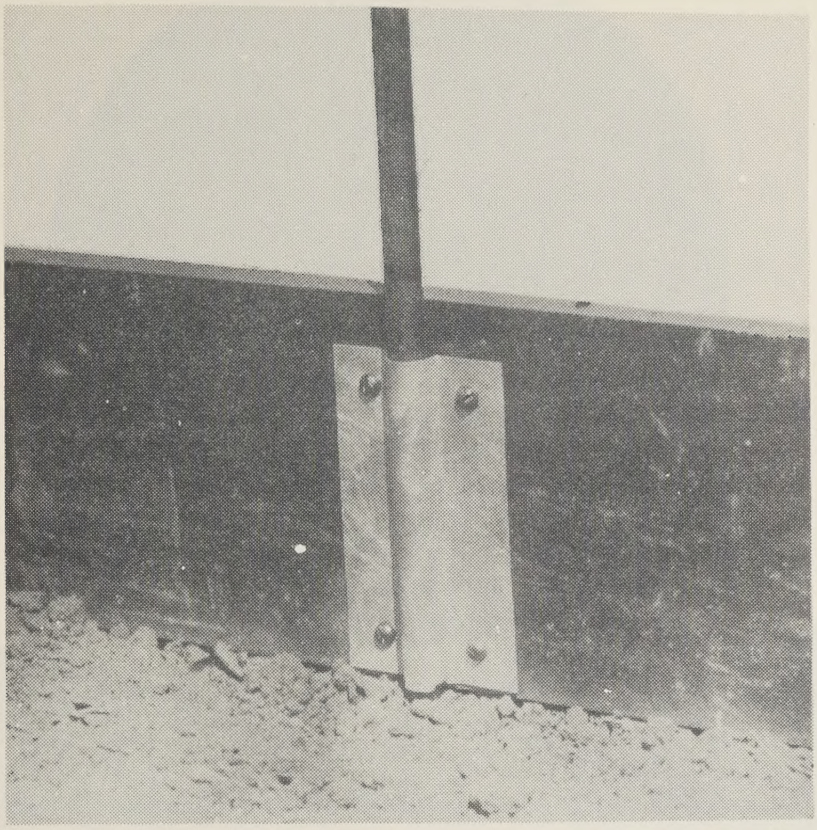


Figure 2.--Field cage assembled, without cloth cover.



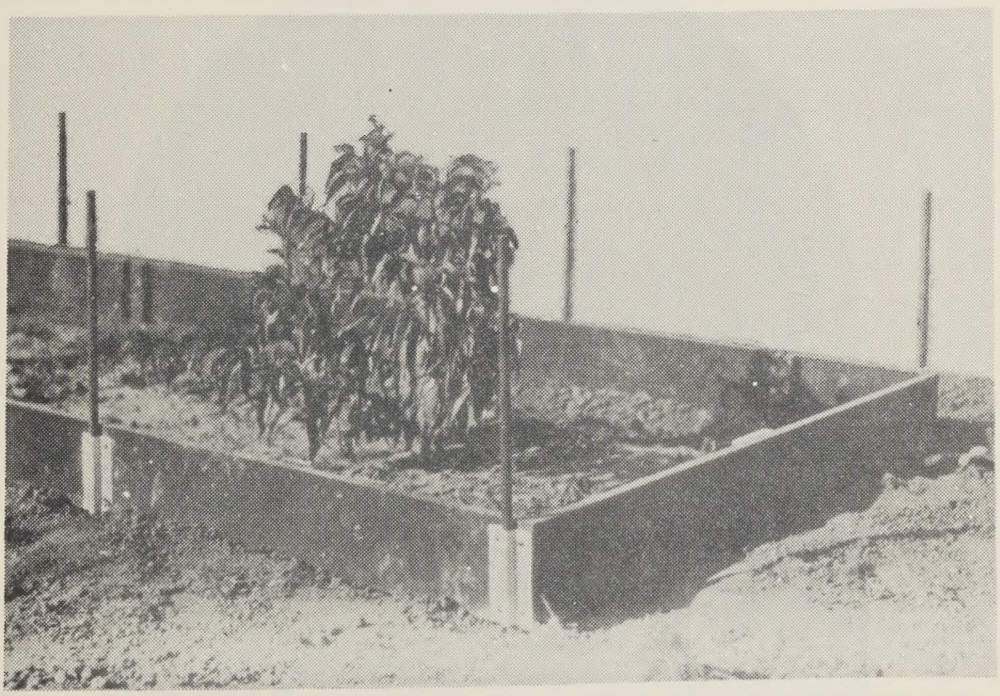


Figure 3.--Details of base of field cage, with iron pipe standards attached.

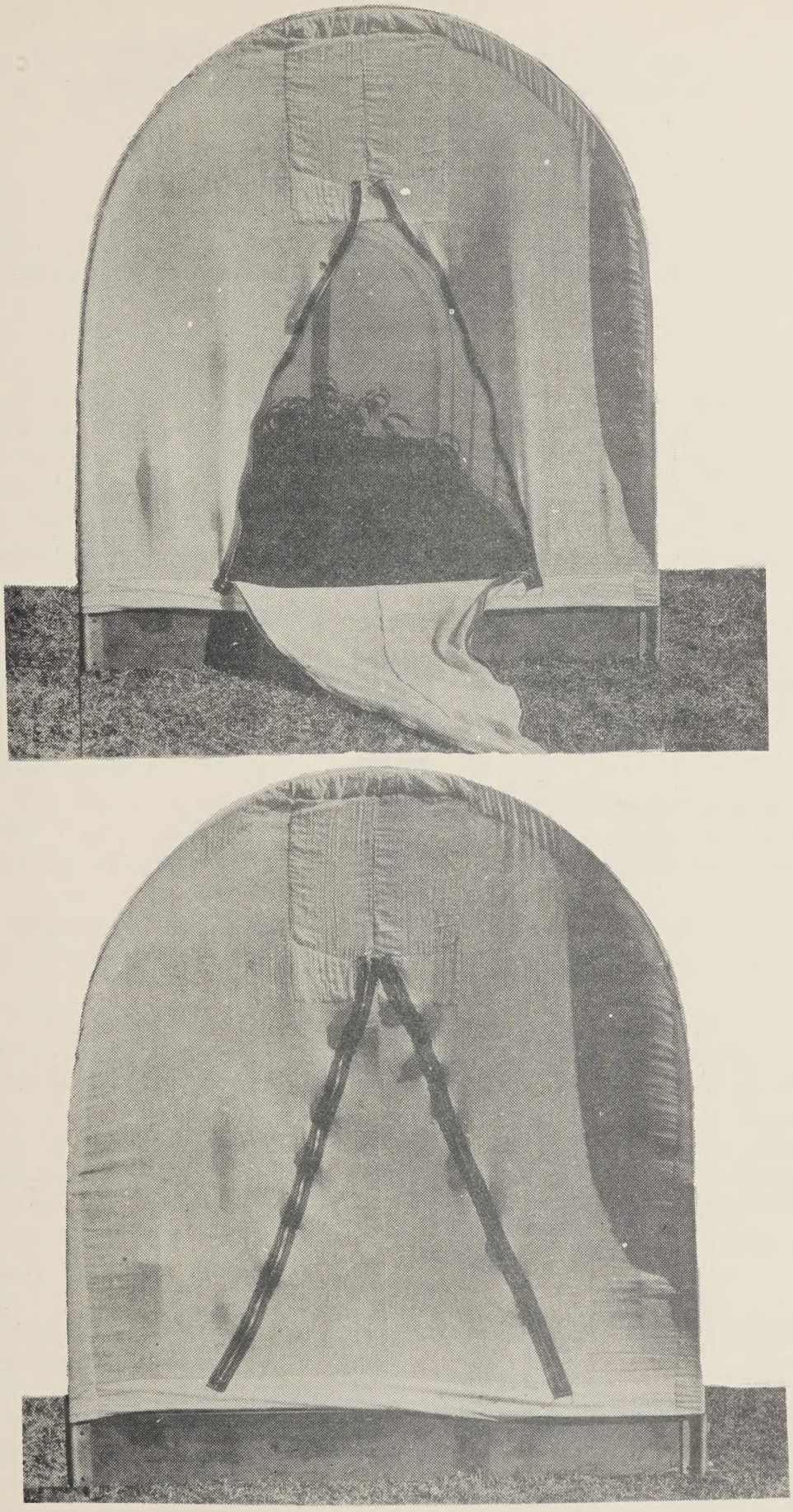


**Figure 4.**--Slide-fastener closure in the end of the field cage.